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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT

PAPER NUMBER

2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/531,014	Applicant(s) TUKKER ET AL.	
	Examiner Christopher R. Lamb	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 9:

Claim 16, from which this claim depends, recites both a main part and a second part of the radiation beam, as well as a reflected main part and a reflected second part. However, this claim refers only to "the part of the radiation beam" (in line 4 and again in line 6). It is not clear which part of the radiation beam this claim refers to.

The Examiner presumes that "the part of the radiation beam" in line 4 is the second part of the radiation beam, and that "the part of the radiation beam" in line 6 is the reflected second part of the radiation beam, but if so, the claim should be amended to make this clear.

Regarding claim 10:

It is dependent on claim 9. In addition, this claim introduces a "reflected beam part." Because claim 16, from which this claim depends, already has "a reflected radiation beam," "a reflected main part" of the beam and "a reflected second part" of the beam, the "reflected beam part" introduced here is confusing. Although it appears to be a new element, it could easily be taken as referring to one of the other reflected beams

in the claim – especially when referred to in the dependent claims that follow. For clarity, this element should be given a name that clearly distinguishes it from the other reflected parts of the beam, such as “the beam part reflected by the reflective portion of the redirecting structure.”

Regarding claims 11 and 12:

They are dependent on claim 10.

Regarding claim 13:

This claim is dependent on claim 10. There are also two additional problems with this claim.

First, it refers to “the redirected beam part” in line 4. There is a lack of antecedent basis for this limitation in the claim. It may refer to the beam after it has been redirected by the first portion of the redirecting structure of claim 9, or the beam after it has been redirected by the second portion of the redirecting structure of claim 9, but no part of the beam has previously been specifically identified as “the redirected beam part.”

Also, this claim refers to “the reflected beam part.” It is not clear if this is the reflected beam part introduced in claim 10, or one of the other reflected parts of the beam introduced in claim 16.

Regarding claim 14:

It is dependent on claim 10.

Regarding claim 15:

It is dependent on claim 10. It also refers to “the redirected beam part” and “the reflected beam part” in the same manner as claim 13.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Koike et al. (US 5,216,649).

Regarding claim 16:

Koike discloses:

An optical scanning device for scanning an optical record carrier by means of a radiation beam (Fig. 18; also, alternatively, Fig. 20), said optical scanning device comprising:

an optical system for directing said radiation beam to an information layer of the optical record carrier (Fig. 18), said optical system comprising

means for focusing at least a main part of said radiation beam to a spot on said information layer (Fig. 18: 5), and

a redirecting structure for directing a second part of said radiation beam other than said main part along a path to said information layer different from a path of said main part of said radiation beam (Fig. 18: 3; column 11, line 30 to column 12, line 10)

said optical system further receiving and directing a reflected radiation beam, reflected from said information layer (column 11, lines 40-60), inclusive of

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a reflected main part corresponding to said main part of said radiation beam
(column 11, lines 40-60) and

a reflected second part corresponding to said second part of said radiation beam
(column 11, line 55 to column 12, line 10); and

a detection system including
an information signal detector for receiving said reflected main part from said
optical system for detecting an information signal therein (column 11, lines 40-60), and
a position sensitive detector collocated with said information signal detector for
receiving said reflected second part (column 12, lines 1-30).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 16 and 2-9 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Koike et al. (US 5,216,649).

Claim 16 was previously rejected under 35 U.S.C. 102(b) as anticipated by
Koike. This rejection relies upon a separate embodiment of Koike.

Regarding claim 16:

Koike discloses:

An optical scanning device for scanning an optical record carrier by means of a
radiation beam (Fig. 8), said optical scanning device comprising:

an optical system for directing said radiation beam to an information layer of the optical record carrier (Fig. 8), said optical system comprising

means for focusing at least a main part of said radiation beam to a spot on said information layer (Fig. 8: 5), and

a redirecting structure for directing a second part of said radiation beam other than said main part along a path to said information layer different from a path of said main part of said radiation beam (Fig. 8: 55a and 55b; also visible in Fig. 9 and Fig. 10)

said optical system further receiving and directing a reflected radiation beam, reflected from said information layer (apparent from Fig. 8), inclusive of

a reflected main part corresponding to said main part of said radiation beam (apparent from Fig. 8); and

a detection system including

an information signal detector for receiving said reflected main part from said optical system for detecting an information signal therein (Fig. 8: 10), and

a position sensitive detector for receiving said reflected second part (Fig. 8: 53a and 53b).

Koike does not disclose:

Wherein the optical system further receives and directs a reflected second part corresponding to said second part of said radiation beam (Koike's system receives the reflected second part at the detectors 53a and 53b, but does not direct the reflected second part); or that the position sensitive detector is collocated with the information signal detector.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include wherein the optical system directs the reflected second part corresponding to said second part of said radiation beam, and wherein said position sensitive detector is collocated with said information signal detector.

The motivation would have been as follows: Koike discloses (column 13, lines 25-27) that "by forming the photodetectors 10 and 53a integrally on the same semiconductor substrate, the optical head device can be made smaller."

This is the motivation for collocating the position sensitive detector and the information signal detector. The motivation for redirecting the reflected second part follows directly from it: in order for the reflected second part of the beam to reach the collocated detectors, it would have to be redirected by the optical system.

Note that Koike's other embodiments (Fig. 18, Fig. 20, etc.) already disclose that it is possible for the optical system to redirect more than one reflected beam.

Regarding claim 2:

In Koike said redirecting structure comprises a refractive redirecting portion (column 9, lines 25-35).

Regarding claim 3:

In Koike the redirecting structure comprises a substantially flat surface portion (apparent from Fig. 9).

Regarding claim 4:

In Koike the redirecting structure is formed as part of an objective lens system in the optical system (apparent from Figs. 8-10: it is part of the objective lens 5).

Regarding claim 5:

In Koike the redirecting structure is formed on the surface of a lens element (apparent from Figs. 8-10: it is part of the objective lens 5).

Regarding claim 6:

In Koike the redirecting structure is a non-rotationally symmetric variation in a surface of the lens element (apparent from Fig. 10).

Regarding claim 7:

In Koike the redirecting structure comprises a surface portion which is inclined with respect to a surrounding lens surface of the lens element (apparent from Fig. 9).

Regarding claim 8:

Koike does not disclose wherein the redirecting structure covers less than 5% of a cross-sectional area of a radiation beam. Koike does not disclose what area it takes up, and the drawings appear to be for illustrative purposes only and cannot be presumed to be to scale.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include wherein the redirecting structure covers less than 5% of a cross-sectional area of a radiation beam.

The motivation would have been: in the course of routine engineering optimization/experimentation to determine the necessary cross-sectional area. Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in the claim are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Regarding claim 9:

Koike discloses wherein the redirecting structure comprises a first portion for redirecting the part of the radiation beam when traveling toward the record carrier (Figs. 8-10: 55a, 55b) and a second portion for redirecting the part of the radiation beam after reflection from the record carrier (it is difficult to tell what reflected beam this claim refers to: see the 35 USC 112 rejection above. If it is the reflected main part, the objective lens 5 directs it toward the detector 10. If it is the reflected second part, this is part of the obviousness analysis discussed in the rejection of claim 16 above: it was obvious to add wherein the system redirects the reflected second part so that the detectors could be collocated, and so a second portion for accomplishing this is necessary to achieve this goal, and inherent to the structure of Koike relied upon for the 35 USC 103(a) rejection).

Response to Arguments

7. Applicant's arguments with respect to claim 2-16 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments were directed toward the previous rejection of claims 1-4 as anticipated by Koike. Although Koike itself has still been relied upon in the rejections above, the grounds of rejection and the embodiments relied upon have changed as noted above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hirai et al. (US 6,545,958) discloses using a second light source for tilt detection.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 3/16/07


TAN DINH
PRIMARY EXAMINER

3/19/07